Manufacturing in the US: Challenges and Policies

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The Manufacturing Economy: Proximity and Performance

Federal Reserve Bank of Cleveland, May 6, 2011

Overview

1. Why does the manufacturing sector warrant special policy considerations?

   Overview of four reasons

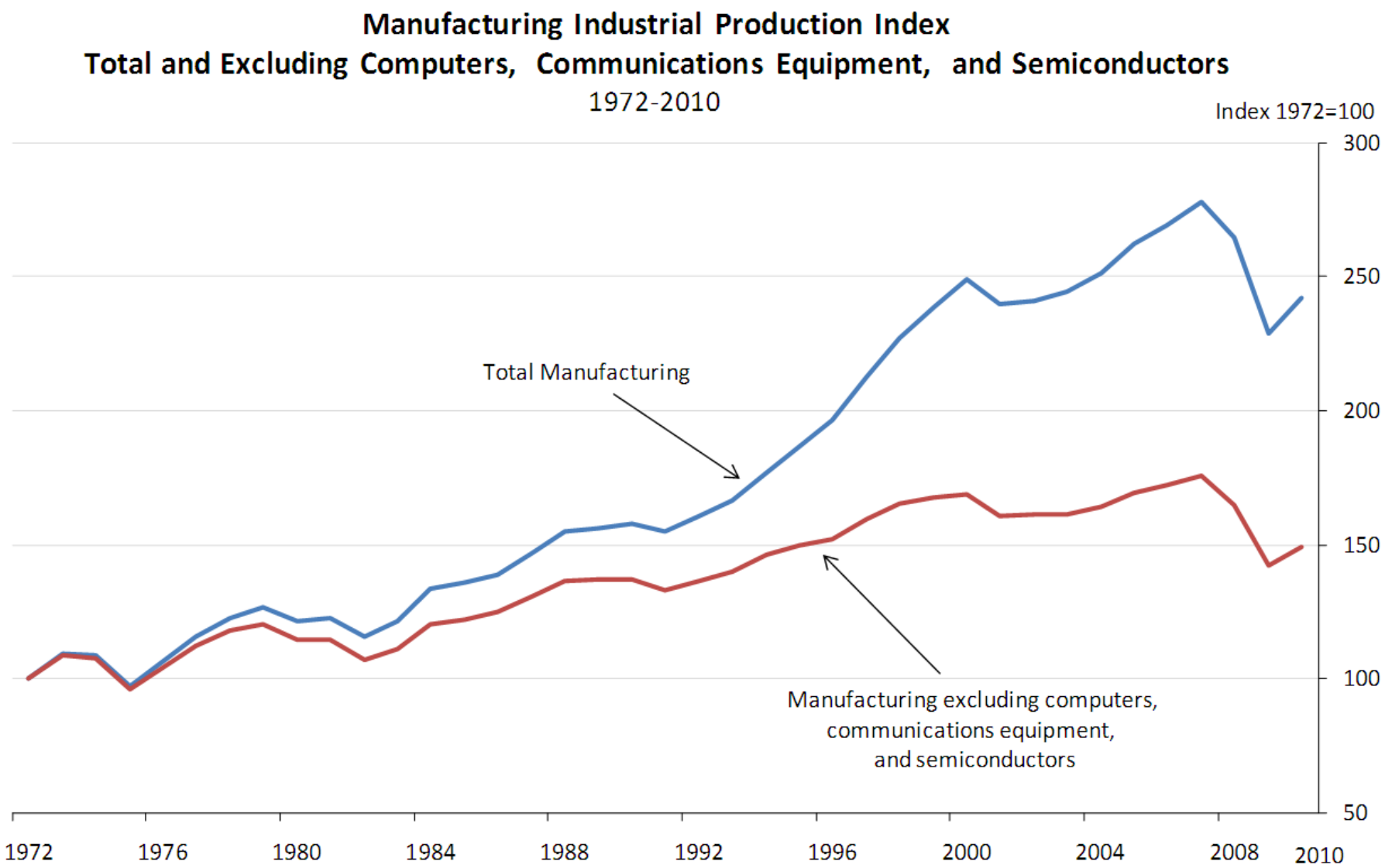
2. Administration efforts to support the manufacturing sector

3. Department of Commerce programs

1. Why does the manufacturing sector warrant special policy considerations?

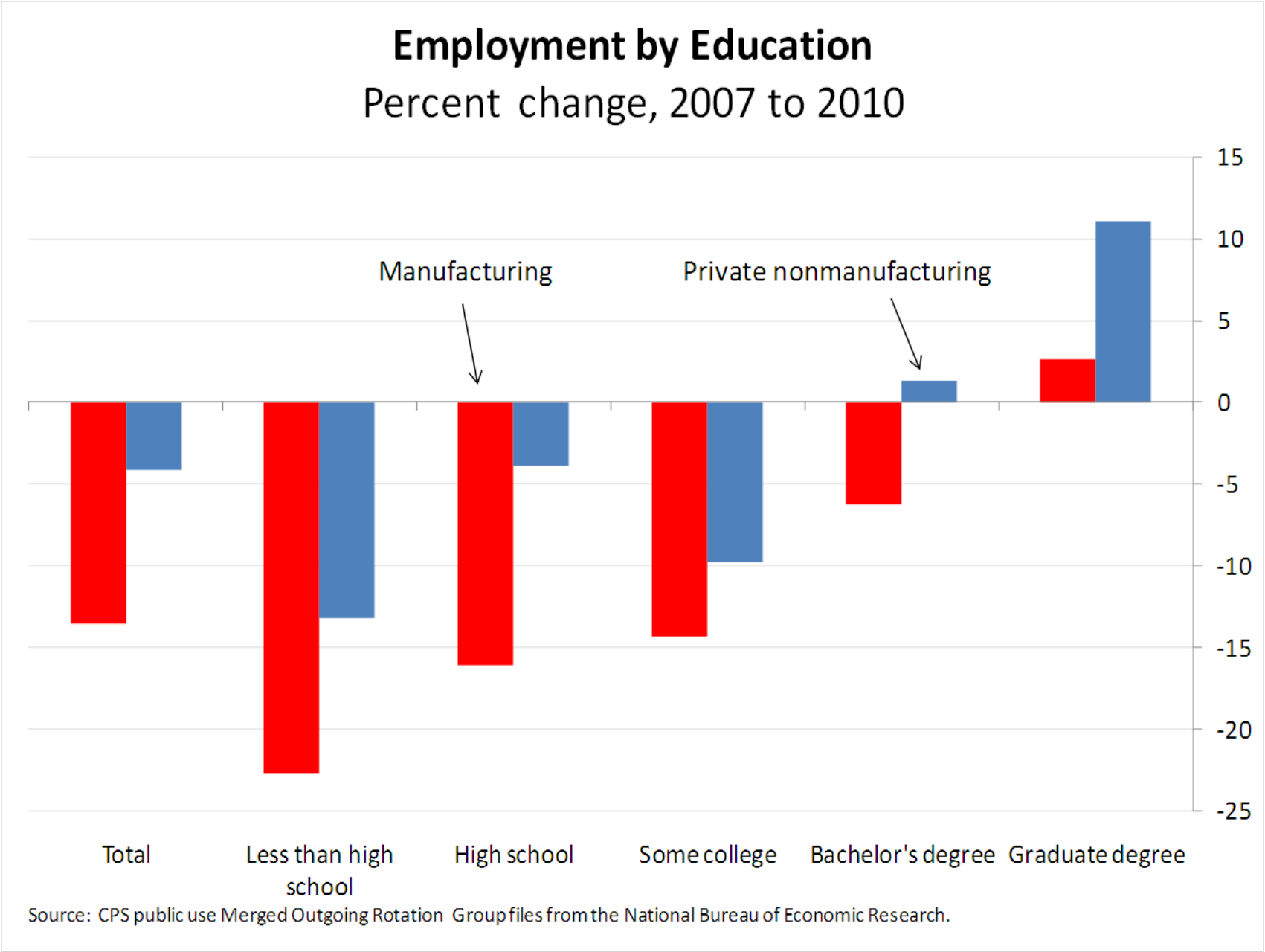
1. Manufacturing is critical for U.S. national and economic security
2. Manufacturing is in “trouble”

Manufacturing is in “trouble”



Source: The Federal Reserve Board, Industrial Production data.

Manufacturing is in "trouble"



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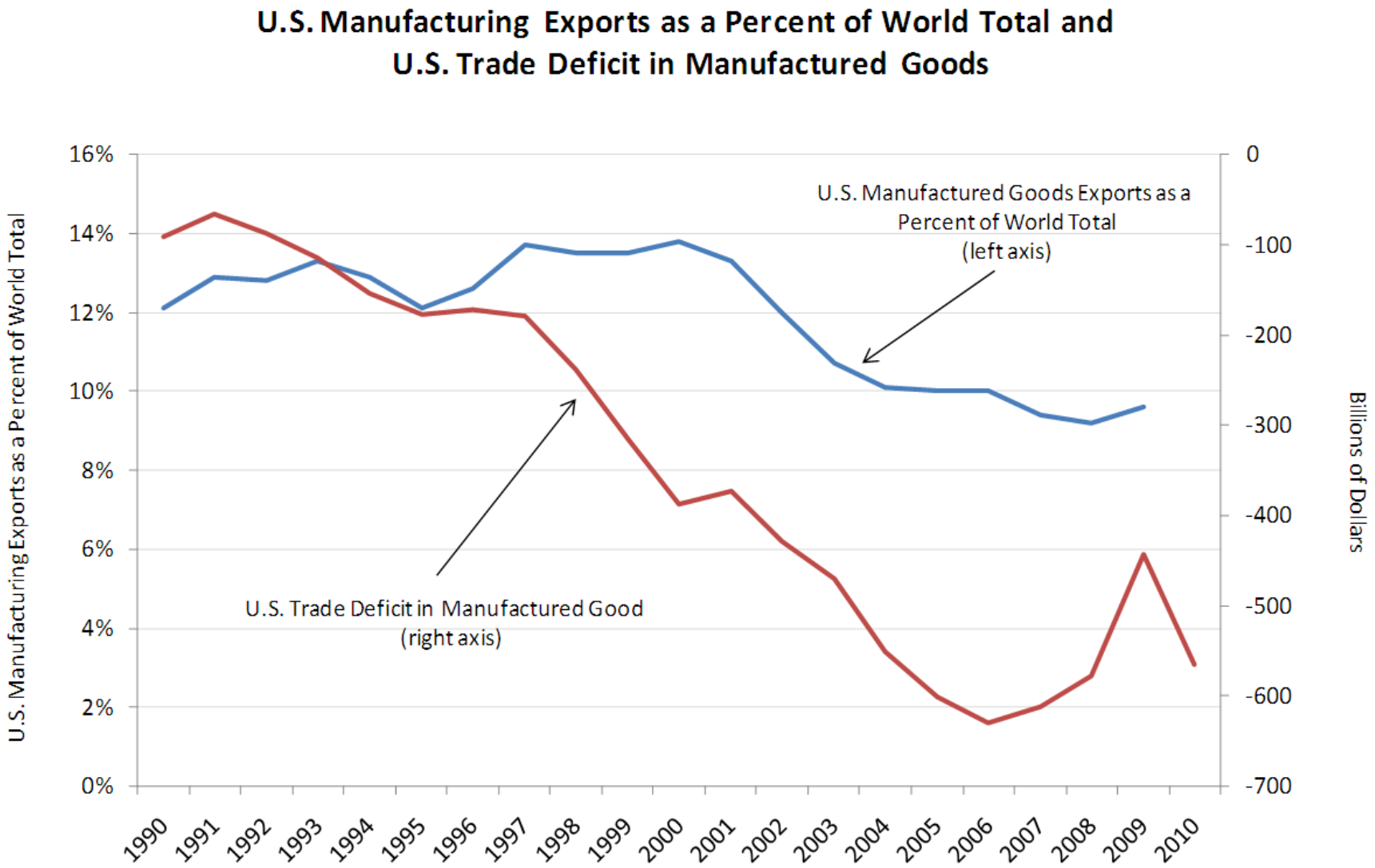
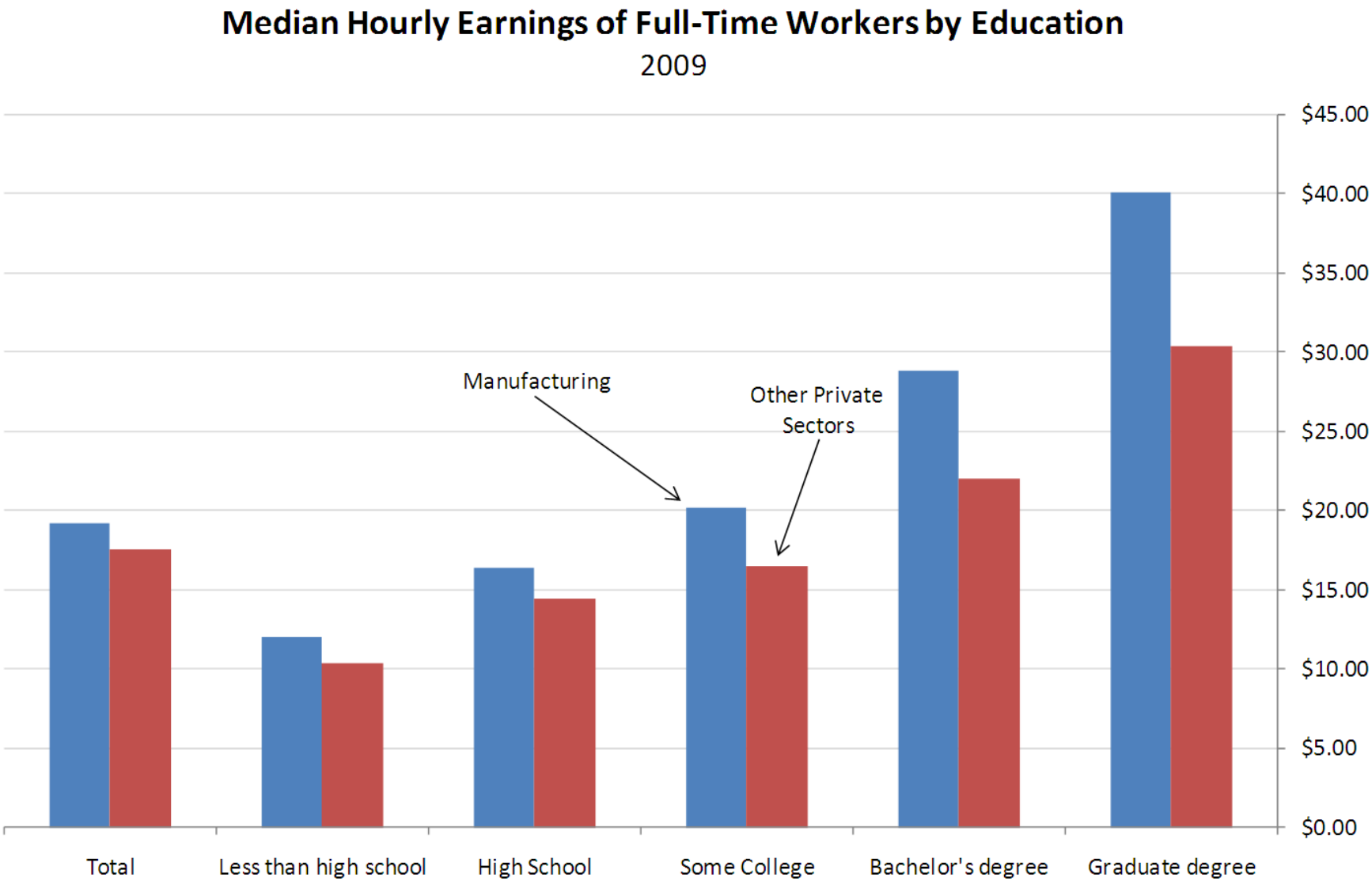


Source: Bureau of the Census and the World Trade Organization

1. Why does the manufacturing sector warrant special policy considerations?

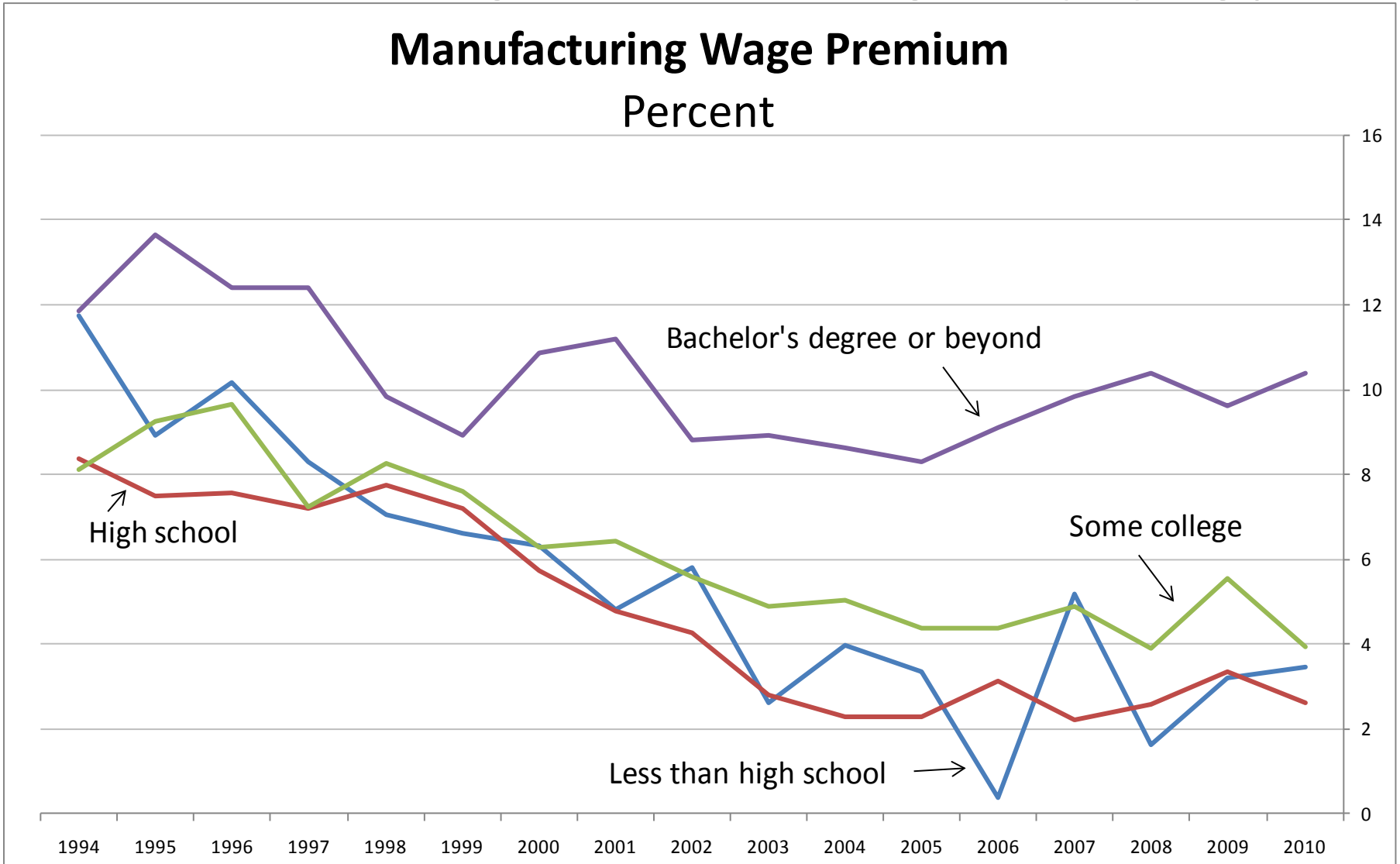
1. Manufacturing is critical for U.S. national and economic security
2. Manufacturing is in “trouble”
3. Manufacturing is a source of good-paying jobs

Manufacturing is a source of good-paying jobs



Source: Current Population Survey, ASEC, 2010.

Manufacturing is a source of good-paying jobs



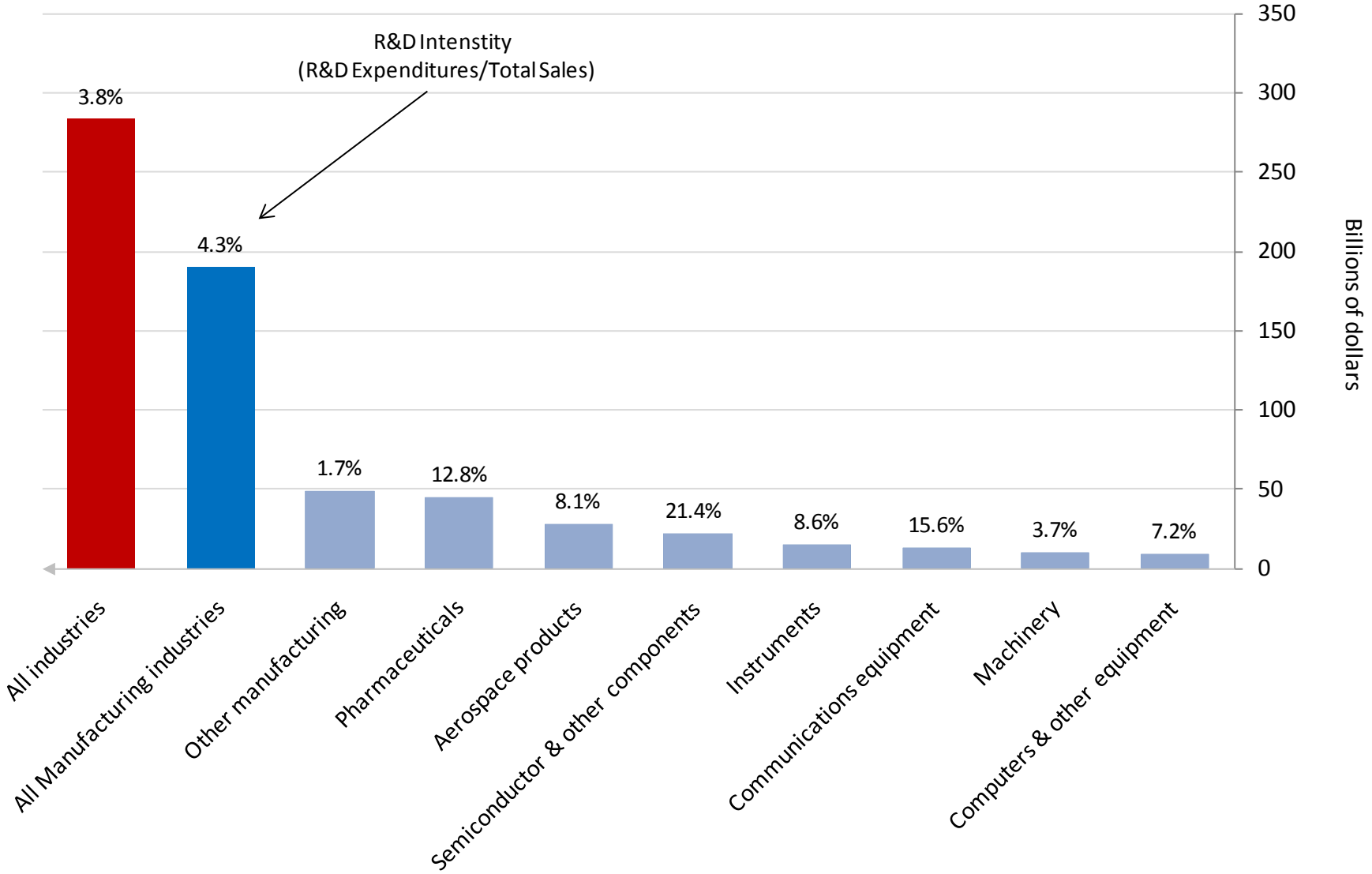
Source: ESA calculations using CPS public use microdata files for annual merged outgoing rotation groups for 1994 to 2010 from http://www.nber.org/data/morg.html. Regression of log hourly earnings vs. age, age^2, educational attainment, dummies for gender & marital status, race & Hispanic origin, citizenship, metropolitan area, region, manufacturing interacted with time, and time. Top-coded earnings multiplied by 1.5. Coefficients transformed back to percent for graph. Private full-time wage and salary workers 25 years and older with earnings > minimum wage x 0.4.

1. Why does the manufacturing sector warrant special policy considerations?

1. Manufacturing is critical for U.S. national and economic security
2. Manufacturing is in “trouble”
3. Manufacturing is a source of good-paying jobs
4. Manufacturing is an innovative sector

Manufacturing is an innovative sector

R&D Expenditures and R&D Intensity by All Industries and Manufacturing Industries
2008

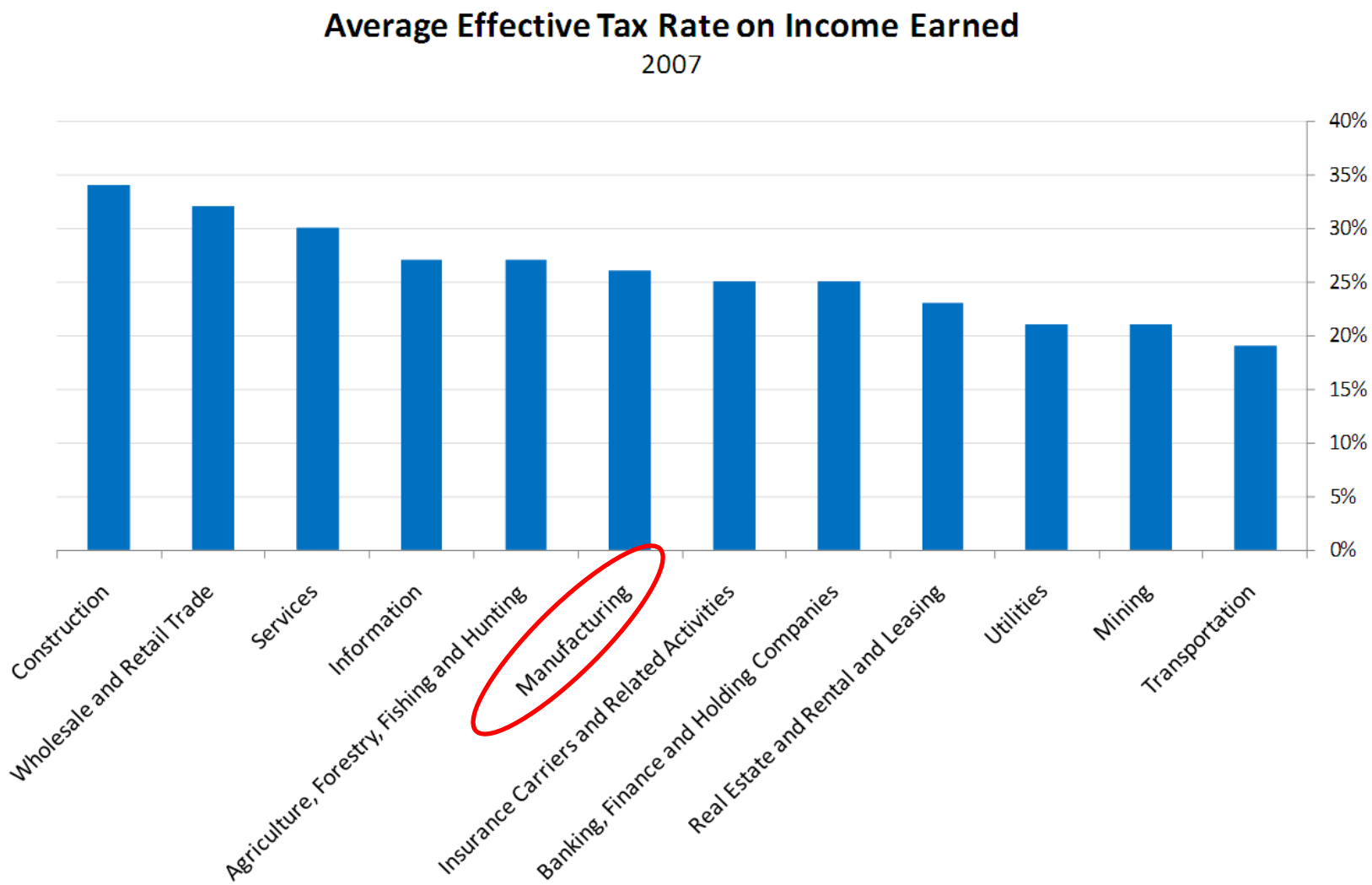


Source: National Science Foundation, Business R&D and Innovation Survey, 2008

2. Administration Efforts to Support the Manufacturing Sector

- Can anyone say “GM” or “Chrysler”?
- Capital markets
- Taxes
  - Small businesses
  - Corporate tax reform

Corporate tax reform



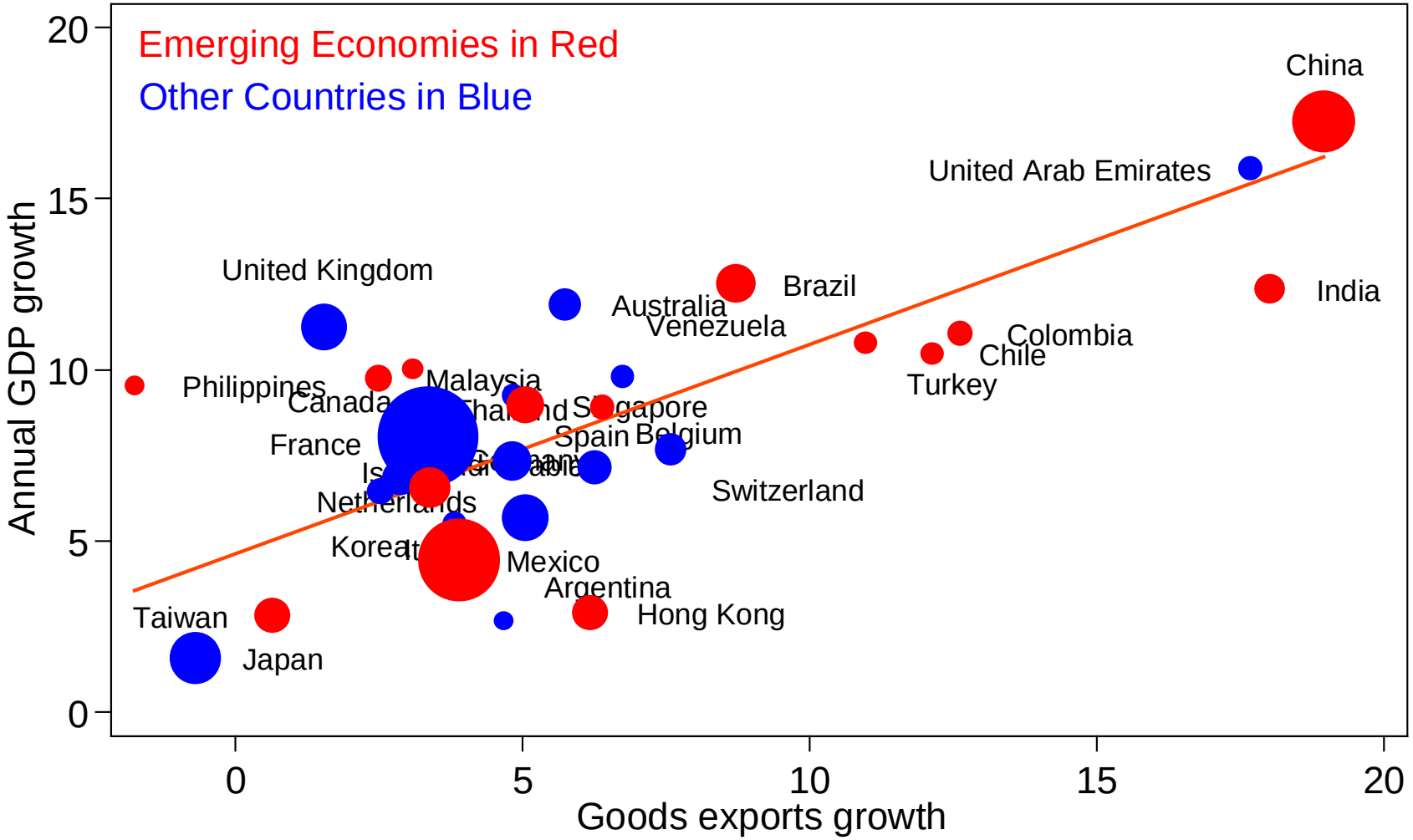
Source: Calculations by the Treasury Department.

2. Administration Efforts to Support the Manufacturing Sector

- Promote foreign market access
  - National Export Initiative
  - Trade agreements (Panama, Colombia, South Korea)
  - Other actions
  - Help U.S. businesses overcome hurdles in exporting

Goods Exports and GDP Growth in Top 30 Export Markets*

Percent change 2000-2010, annual rate



Source: Census Bureau, IMF

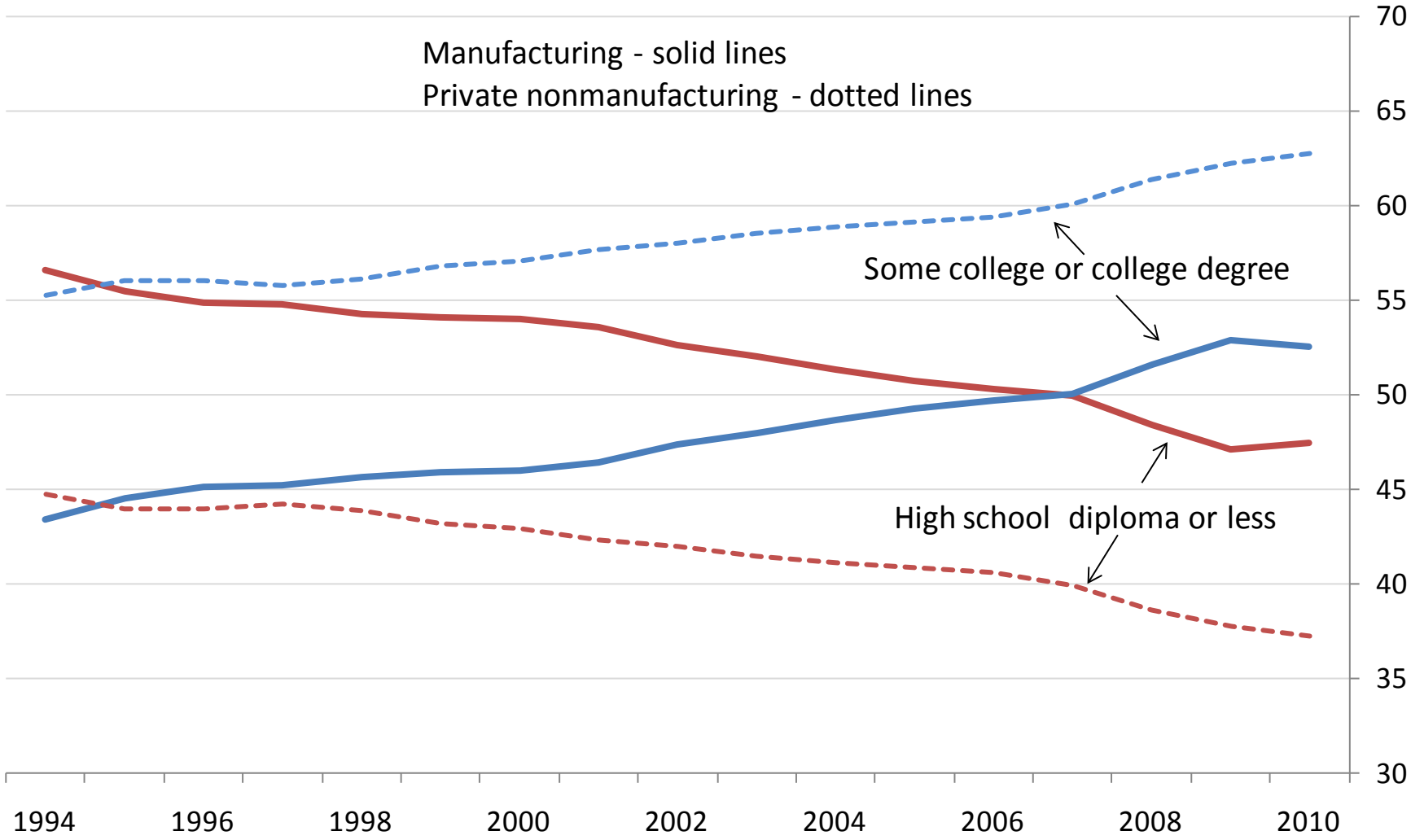
*weighted by the level of exports in 2010

2. Administration Efforts to Support the Manufacturing Sector

- Worker skills
  - Lifelong learning (more support for community colleges)

Employment

Annual averages, Percent

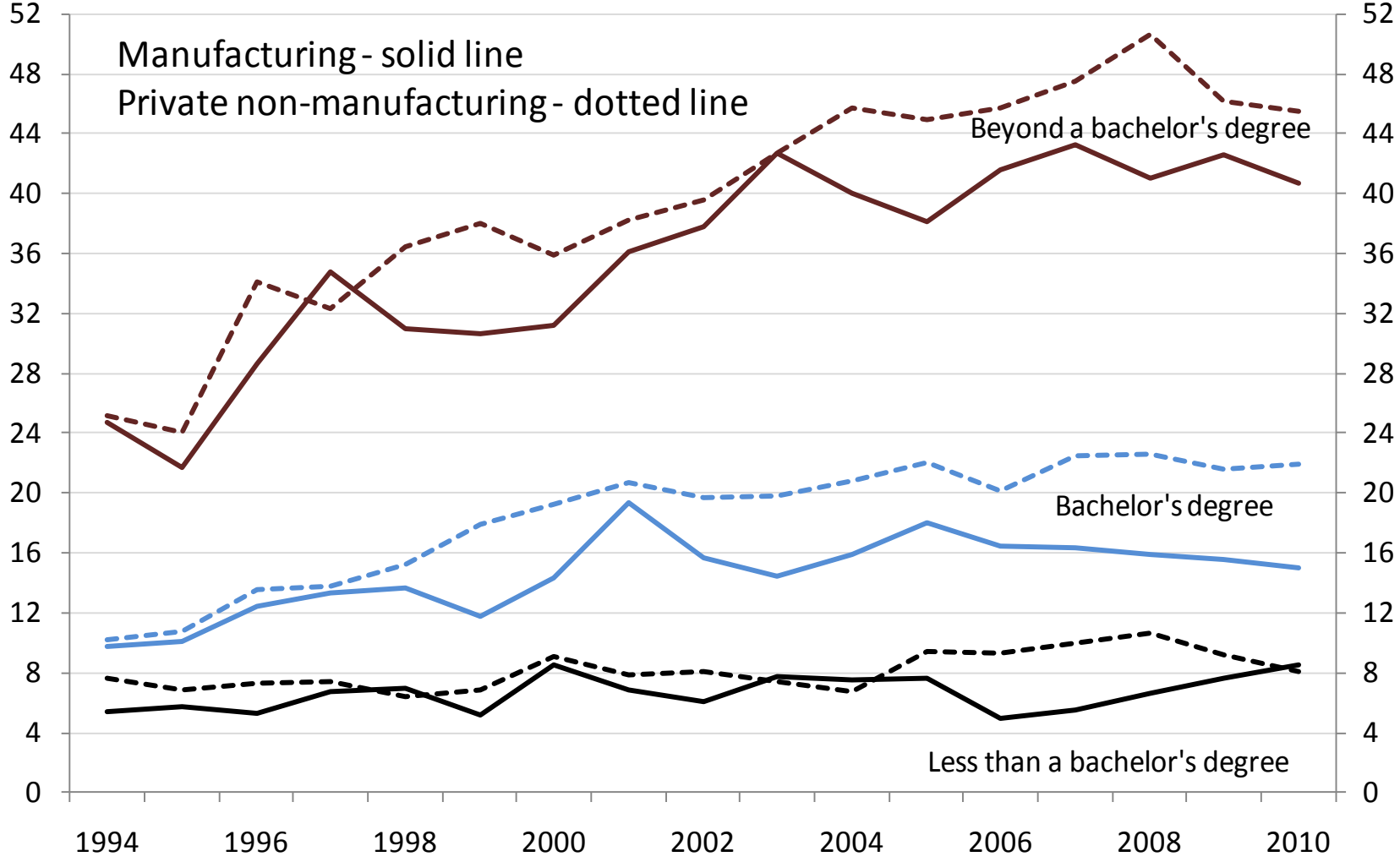


Source: CPS public use Merged Outgoing Rotation Group files from the National Bureau of Economic Research.

2. Administration Efforts to Support the Manufacturing Sector

- Worker skills
  - Lifelong learning (more support for community colleges)
  - STEM education
  - Immigration

Foreign-born Share of Employment in STEM Occupations by Education, Percent

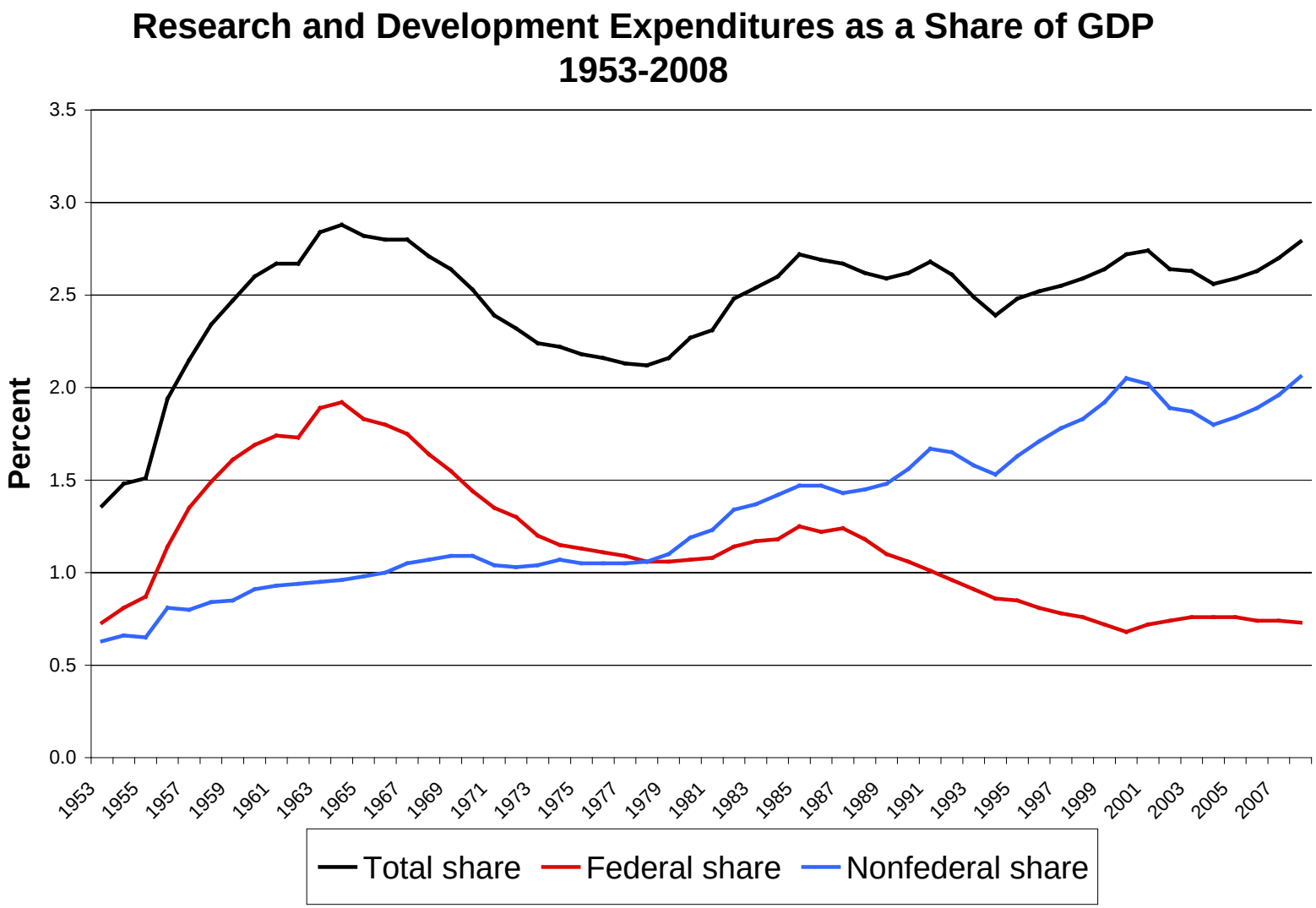


Source: ESA calculations using Current Population Survey public use microdata files for 1994 thru 2010. Private full-time wage and salary workers aged 25 and over.

2. Administration Efforts to Support the Manufacturing Sector

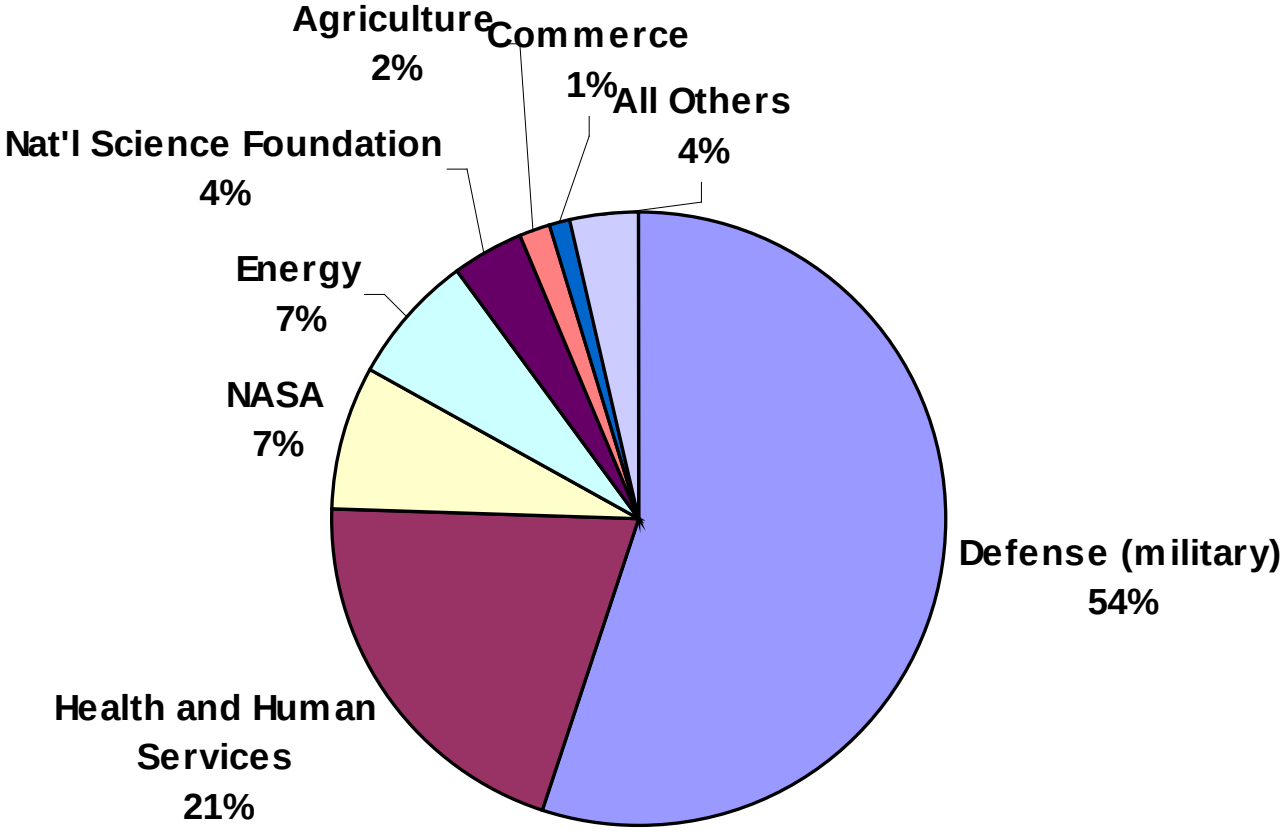
- Innovation
  - STEM again
  - Patent reform
  - R&D tax credit
  - Federal spending on R&D
    - Energy
    - NIH
    - NSF
    - NIST

Direct Federal Spending



SOURCE: National Science Foundation, Division of Science Resources Statistics

Direct Federal Spending



Federal R&D Budget Authority by Agency
(FY 2009 actual)

3. Department of Commerce

- NIST
  - Direct investments in basic science, measurement capacity and technical assistance for the establishment of industry standards that enable the development of entire markets for manufactured goods.
  - Manufacturing Extension Partnership (MEP) (here in Cleveland)
  - Technology Innovation Program (TIP) funds high-risk, high-reward research in areas of critical national need, including advanced manufacturing

- PTO
  - Reduce patent backlog
  - Optimize the quality and processing time of patents
  - Reduce uncertainty and costs of patent rights

- International Trade Administration
  - Helping small businesses

Appendix Table 1

Basic Earning Statistics for Manufacturing Workers and Other Private Sector Workers									
By education									
				Earning distribution of full time workers:					
Education	Sector	Average number of hours worked	% of workers "full time"	10th	25th	50th	75th	90th	Mean
All workers	Man	41.5	84.4	9.00	12.95	19.23	29.33	44.71	24.81
	Non man	38.4	71.8	7.38	11.53	17.60	27.24	41.52	23.59
Less than HS	Man	38.7	75.5	6.25	8.65	12.00	16.33	21.63	14.99
	Non man	34.3	53.7	5.29	7.26	10.40	14.90	21.63	13.00
High School	Man	40.9	82.3	8.46	11.57	16.43	22.12	29.91	18.54
	Non man	38.3	70.0	6.73	9.62	14.42	20.19	28.85	17.39
Some college	Man	41.1	84.3	10.58	14.42	20.19	27.88	37.50	22.87
	Non man	37.1	68.2	7.21	11.13	16.48	24.04	33.65	19.99
Bachelor's	Man	43.4	90.4	14.10	12.82	28.84	42.74	55.29	34.19
	Non man	40.1	81.3	9.83	15.00	22.05	33.10	48.08	28.18
BA/BS +	Man	44.9	93.2	19.23	28.85	40.06	55.56	69.93	47.27
	Non man	42.1	83.7	13.74	20.91	30.35	46.15	72.12	41.39
Source: CPS ASEC 2010									